Contributing to Automotive Grade Linux and GENIVI Development Platform

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Agenda

Konsulko Group

- **Automotive Grade Linux (AGL)**
- **GENIVI Development Platform (GDP)**
- **Contributing to AGL**
- **Contributing to GDP**

Automotive Grade Linux

Konsulko Group

- **Project of the Linux Foundation**
- **In-Vehicle-Infotainment (IVI) GNU/Linux distribution**
- **Based on the Yocto Project and OpenEmbedded**
- **Founded in 2014**

AGL Members

Konsulko Group

Platinum

DENSO

mazda

Panasonic

RENESAS

SUZUKI

TOYOTA

Gold

HONDA
The Power of Dreams

NTT DATA
NTT DATA MSE Corporation

Silver

AISIN AW CO.,LTD.

Continental

Mercedes-Benz

DRIMAES

FUJITSU TEN

irdeto

MITSUBISHI ELECTRIC

NISSAN

Pioneer

QUALCOMM

WIND

And more...

Konsulko Group

Top AGL Contributors

Konsulko Group

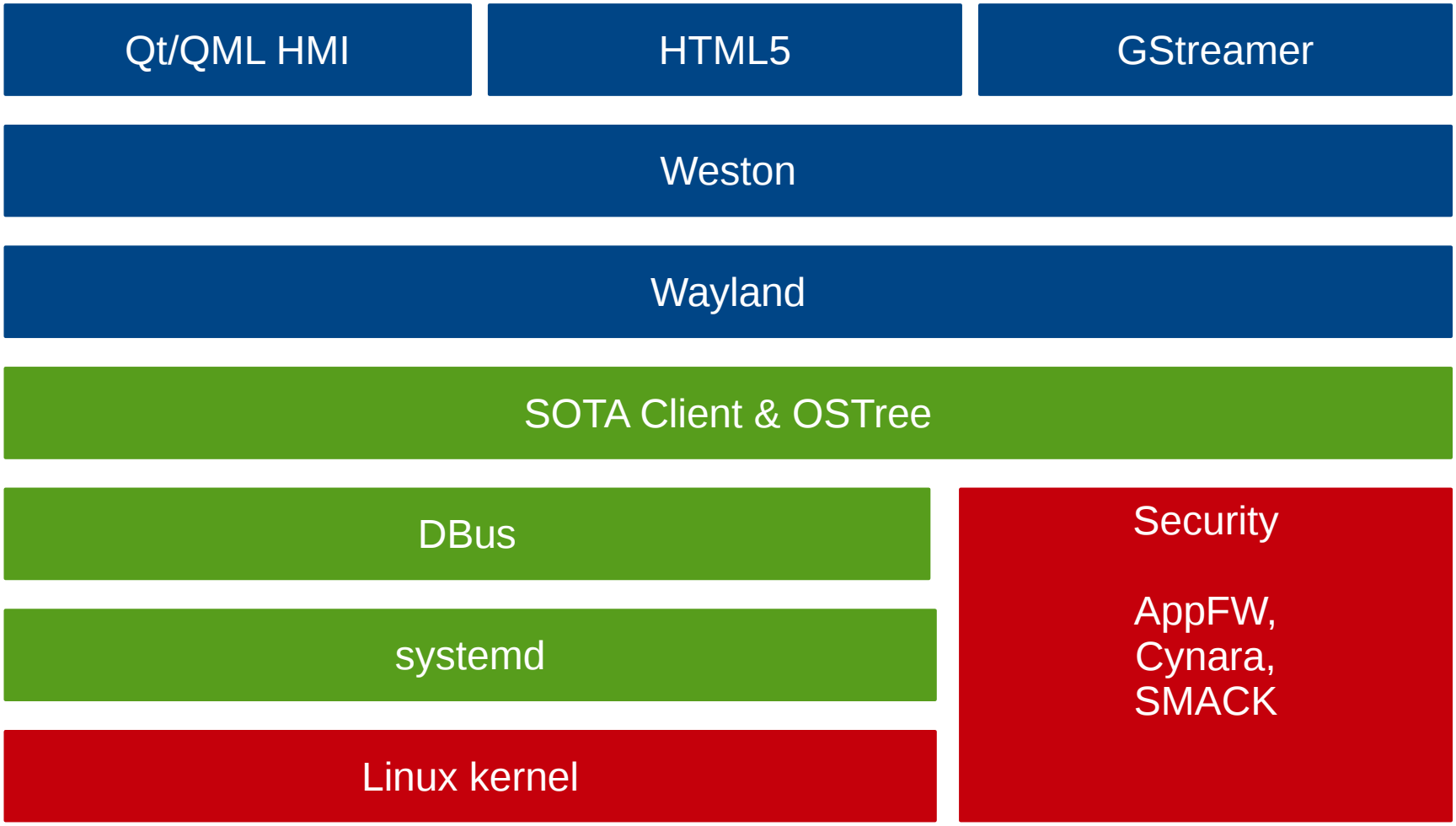
- **Top 25 AGL contributors in 2016 according to statistics from the Git repositories**

Commits	Name	Company
533	Jose Bollo	IoT.BZH
166	NuoHan Qiao	Fujitsu Ten
146	Jan-Simon Moeller	Linux Foundation
102	Stephane Desneux	IoT.BZH
92	Jens Bocklage	Mentor Graphics
86	Tasuku Suzuki	Qt Company
85	Manuel Bachmann	IoT.BZH
70	Yannick Gicquel	IoT.BZH
64	Ran Cao	Fujitsu Ten
57	Tadao Tanikawa	Panasonic
55	Fulup Ar Foll	IoT.BZH
42	Leon Anavi	Konsulko

Commits	Name	Company
40	Anton Gerasimov	Advanced Telematics
35	Yanhua GU	Fujitsu Ten
22	Christian Gromm	Microchip
21	Ronan	IoT.BZH
20	SriMaldia	Alps
18	Naoto Yamaguchi	AisinAW
15	Karthik Ramanan	TI
13	Scott Murray	Konsulko
11	Kotaro Hashimoto	Mitsubishi Electric
9	Matt Porter	Konsulko
8	Dominig Ar Foll	Intel
8	Yuta Doi	Witz
8	Jian Zhang	Fujitsu Ten

AGL Core Technologies

Konsulko Group



AGL Yocto/OE layers

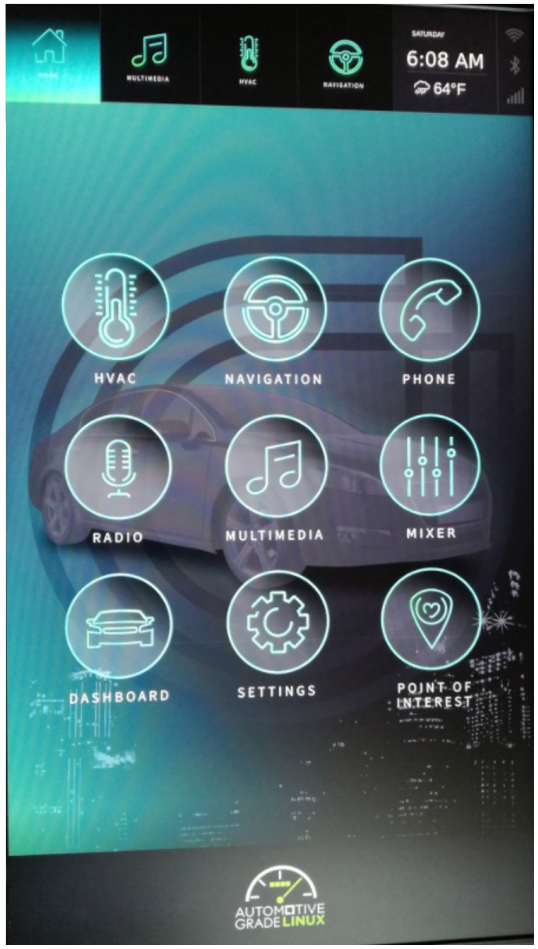
Konsulko Group

- **poky**
- **meta-agl**
- **meta-agl-demo**
- **meta-agl-devel**
- **meta-agl-extra**
- **meta-intel-iot-security**
- **meta-oic**
- **meta-qt5**

AGL Supported Devices

Konsulko Group

- Renesas Gen2 and Gen3 boards
- Minnowboard MAX/Turbot
- Intel Joule
- TI DRA7xx EVM (Vayu)
- Raspberry Pi 2/3
- Dragonboard 610-c
- i.MX6 SABRE



AGL Releases

Konsulko Group

- **Electric Eel 5.0.0 – scheduled for Dec 2017**
- **Daring Dab 4.0.0 – scheduled for Jul 2017**
- **Charming Chinook 3.0.0 – Jan 2017**
- **Brilliant Blowfish 2.0.0 – Jul 2016**
- **Agile Albacore 1.0 – Jan 2016**
- **AGL Unified Code Base (UCB) – 4 Jan 2016**

GENIVI Development Platform

Konsulko Group

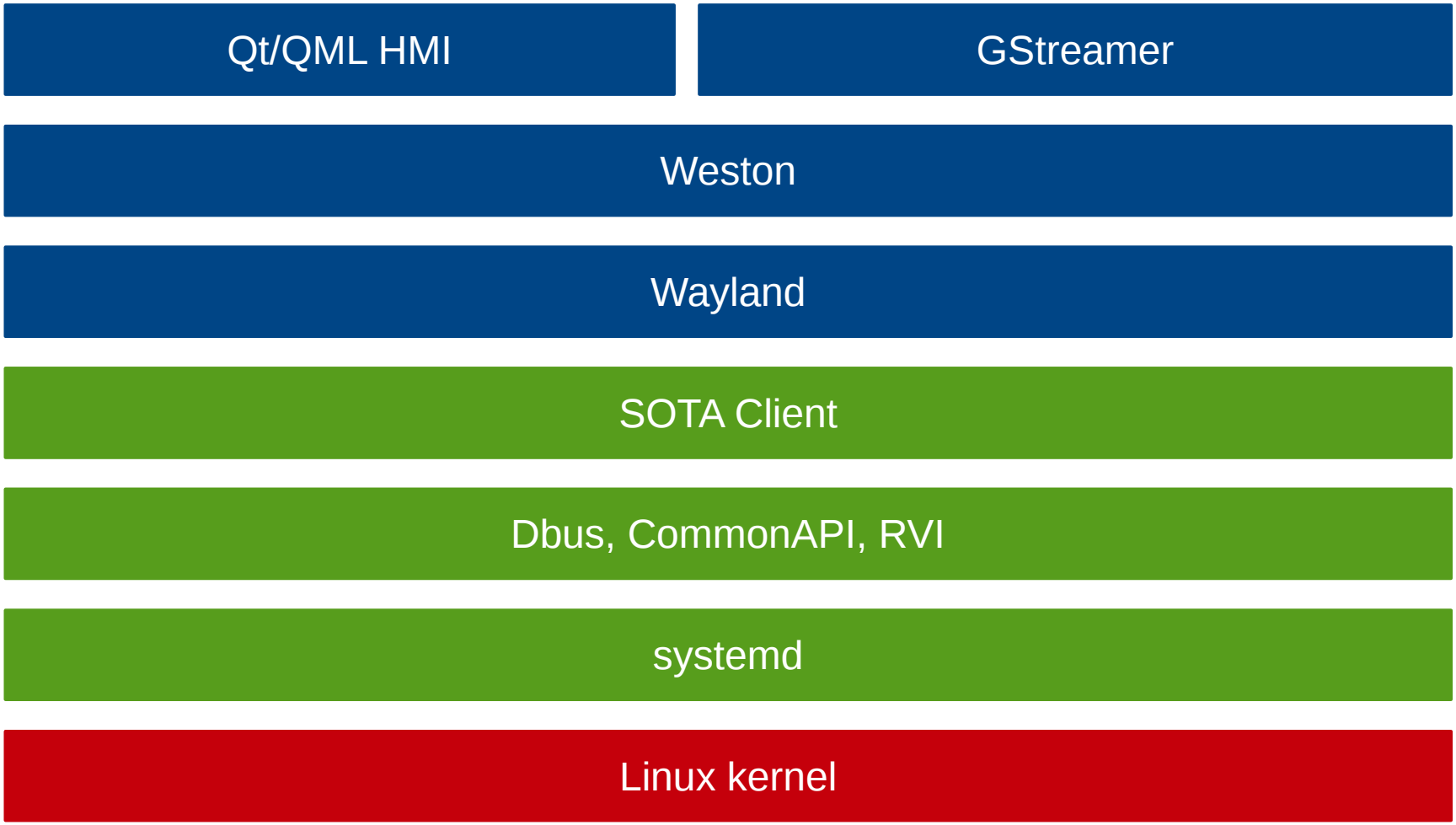
- **GENIVI Alliance**
- **Automotive open source project**
- **Based on the Yocto Project and OpenEmbedded**
- **Founded in 2009**

GENIVI Members

Konsulko Group

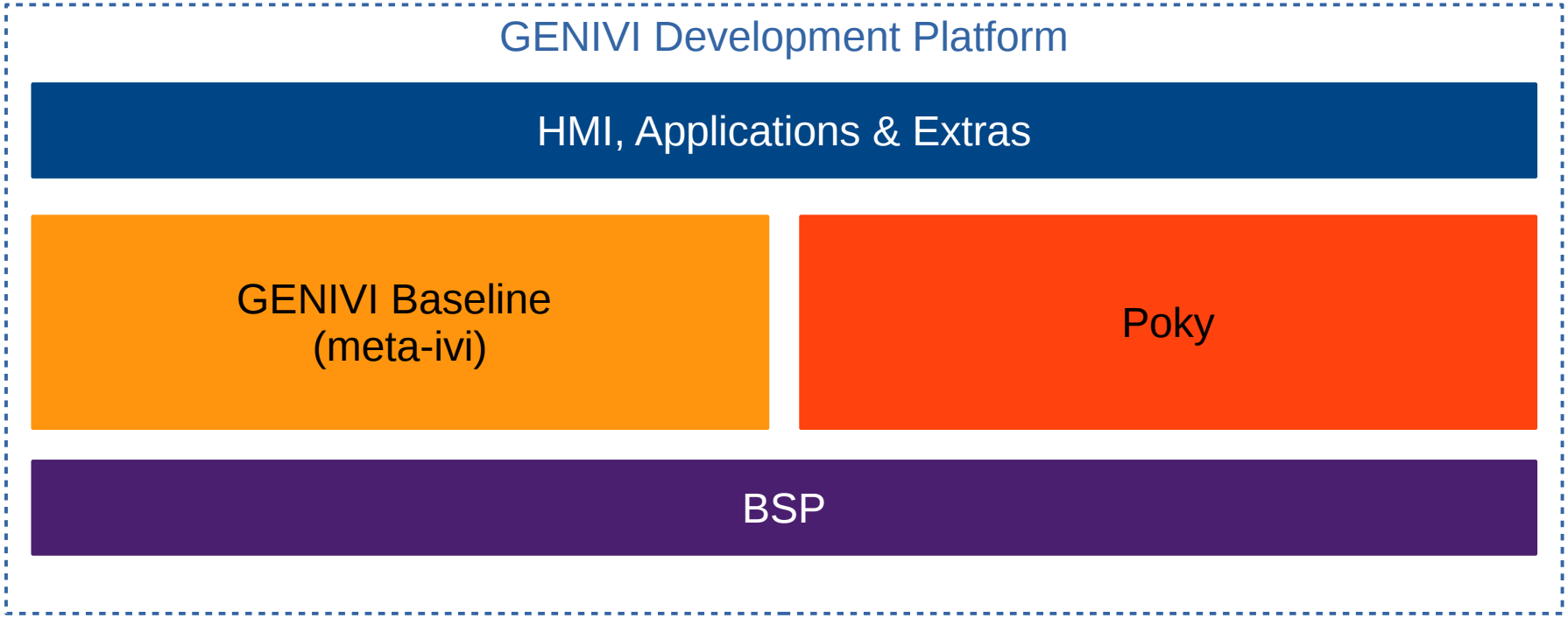
GDP Core Technologies

Konsulko Group



GDP Structure

Konsulko Group



GDP Yocto/OE layers

Konsulko Group

- **poky**
- **meta-ivi**
- **meta-genivi-dev**
- **meta-oic**
- **meta-qt5**
- **meta-rvi**

GDP Supported Devices

Konsulko Group

- **Renesas Gen2 and Gen3 boards**
- **Minnowboard MAX/Turbot**
- **Raspberry Pi 2 & 3**

GDP Releases

- **GDP 12 – scheduled for April 2017**
- **GDP 11 – December 2016**
- **GDP 10 - not released**
- **GDP 9 – April 2016**
- **GDP 8 - not released**
- **GDP 7 - 2015**

Software, Over The Air

Konsulko Group

- **Complete open source suite for uploading, managing, transmitting, validating, and deploying software updates remotely to a fleet of vehicles**
- **Based on OSTree, "git-like" model for committing and downloading bootable filesystem trees**
- **Provides a server and a client component, integrated with the rest of the GENIVI system**

AGL Developer Tools

Konsulko Group

- **Git & Repo**
- **Gerrit** https://gerrit.automotivelinux.org/
- **Jenkins** https://jenkins-new.automotivelinux.org/
- **JIRA** https://jira.automotivelinux.org/
- **Wiki** https://wiki.automotivelinux.org/
- **New documentation site** http://docs.automotivelinux.org/

Contributing to AGL

Konsulko Group

- **Report an issue or a new feature in JIRA**
- **Modify the source code**
- **Include references to the JIRA issue in the Git commit messages**
- **Contribute to the upstream following the AGL Gerrit workflow**

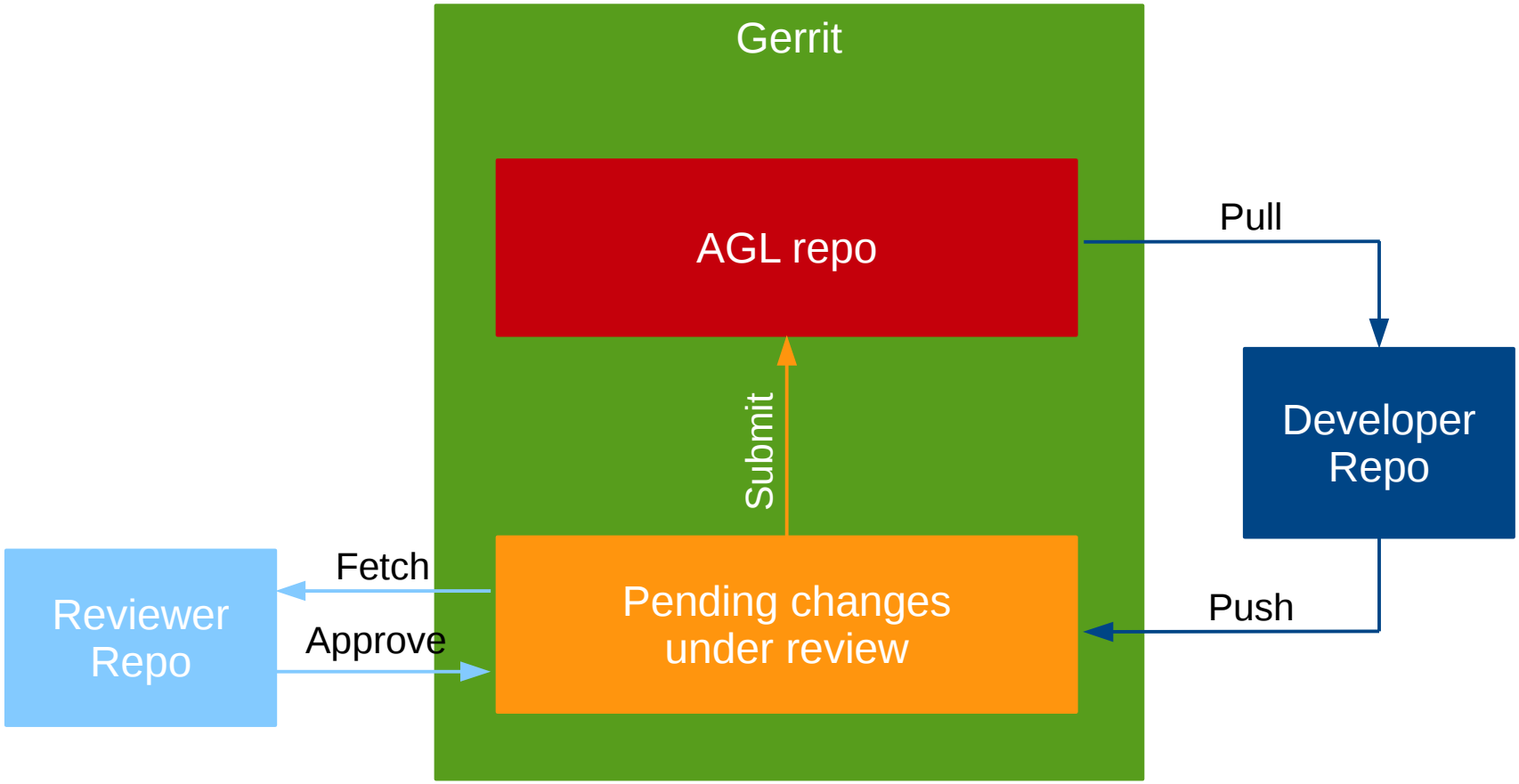
AGL Gerrit

Konsulko Group

- **Free and open source web-based team code collaboration tool for code reviews**
- **Create an account at identity.linuxfoundation.org to get started**

AGL Gerrit Workflow

Konsulko Group



AGL Example

Konsulko Group

weston: Launch even without input devices 71/6871/2

```
author    Leon Anavi <leon.anavi@konsulko.com>
          Mon, 24 Oct 2016 14:24:57 +0200 (15:24 +0300)
committer Jan-Simon Moeller <jsmoeller@linuxfoundation.org>
          Mon, 24 Oct 2016 17:03:47 +0200 (15:03 +0000)
commit    f6320f5660db15a207f69fbe2ea6e837bd832b34
tree      21988012108f4a816a5447db253a339e395cf45b
parent    557b015963c8f0b54baa772595252b101d9012eb
```

tree | snapshot

commit | diff

```
weston: Launch even without input devices

Launch Weston even if there are no input devices
such a keyboard or a mouse.

Bug-AGL: SPEC-297

Change-Id: I3187b310b1024ef77d4696a06b325bface5de2b3
Signed-off-by: Leon Anavi <leon.anavi@konsulko.com>
```

```
meta-agl/recipes-graphics/wayland/weston/0001-compositor-drm.c-Launch-without-input-devices.patch
meta-agl/recipes-graphics/wayland/weston_1.9.0.bb
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AGL JIRA Issue

Gerrit Change-Id

```
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meta-agl/recipes-graphics/wayland/weston_1.9.0.bb
```

AGL Communication Channels

Konsulko Group

- **AGL mailing list**

  https://lists.linuxfoundation.org/mailman/listinfo/automotive-discussions

- **Weekly Developer Call**

  (Tuesday 14:00 - 15:00 UTC)

  https://wiki.automotivelinux.org/dev-call-info

- **IRC**

  channel #automotive on freenode.net

GENIVI Developer Tools

Konsulko Group

- **Git**
- **GitHub** https://github.com/genivi
- **GoCD** http://go.genivi.org/
- **JIRA** https://at.projects.genivi.org
- **Wiki** https://at.projects.genivi.org/

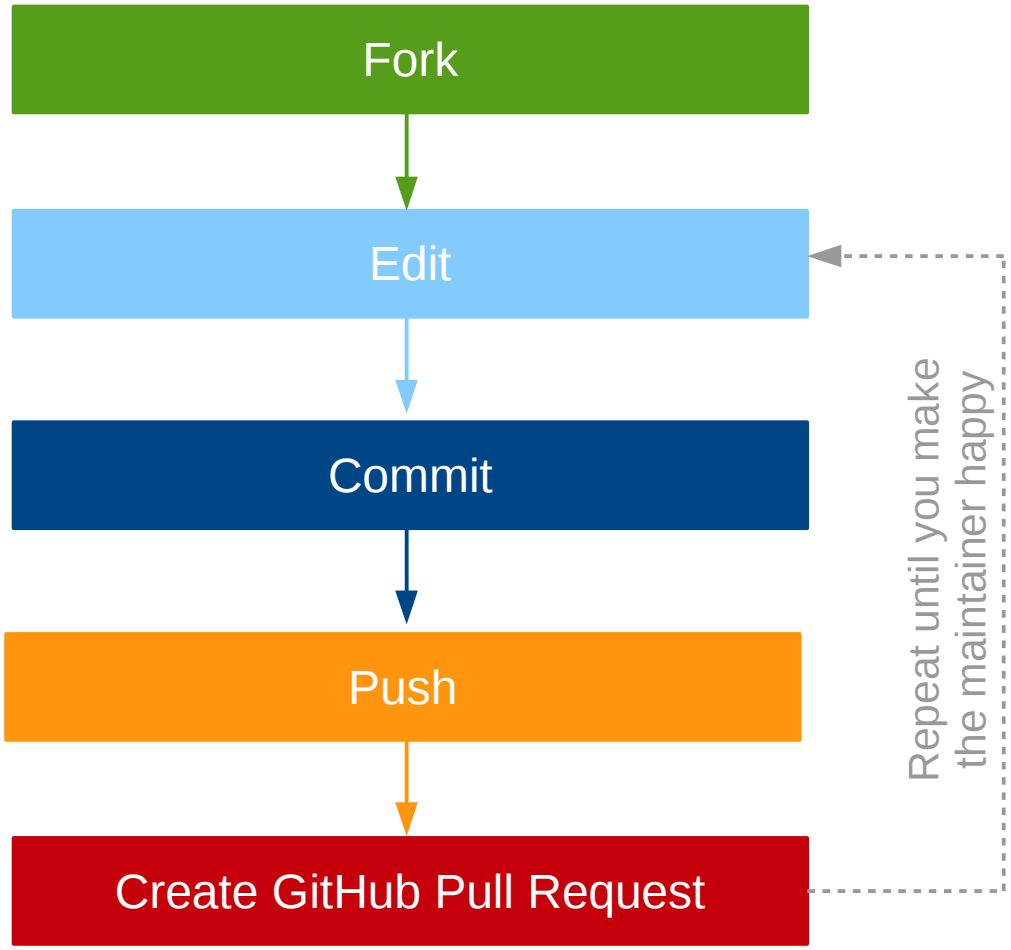
Contributing to GDP in GitHub

Konsulko Group

- **Report an issue or a new feature in JIRA**
- **Fork the project in GitHub**
- **Modify the source code**
- **Include references to the JIRA issue in the Git commit messages**
- **Create a GitHub pull request**

Contributing to GENIVI Projects in GitHub

Konsulko Group



GDP Example

Konsulko Group

weston: Launch DRM backend without input devices

```
Allow launching Weston 1.11 with DRM backend even
without input devices such as a keyboard, a mouse
or a touchscreen. This fix is convenient for
demonstrations and it is useful for Raspberry Pi
2 and 3 as well as other devices which rely on
DRM backend.

[GDP-149] Weston and HMI apps are not launched
without input devices on Raspberry Pi

Signed-off-by: Leon Anavi <leon.anavi@konsulko.com>
```

master (#50) **v11.0**

leon-anavi committed with **zeenix** on Dec 14, 2016

GDP Example

Konsulko Group

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```

GENIVI JIRA Issue

master (#50) v11.0

leon-anavi committed with **zeenix** on Dec 14, 2016

Contributing to meta-ivi

Konsulko Group

- **GENIVI components and their dependencies based on a time-based snapshot of a version of the GENIVI compliance specification**
- **Sign-off the Git commit messages and submit them against meta-ivi mailing list with git send-email, for example:**

```
git format-patch -s --subject-prefix='meta-ivi][PATCH' origin

git send-email --to=yong-il.joh@windriver.com --cc=genivi-meta-ivi@lists.genivi.org <generated patch>
```

GDP Communication Channels

Konsulko Group

- **GDP mailing list**

  https://lists.genivi.org/mailman/listinfo/genivi-projects

- **GDP Open Call**

  (Wednesday 16:00 - 17:00 UTC)

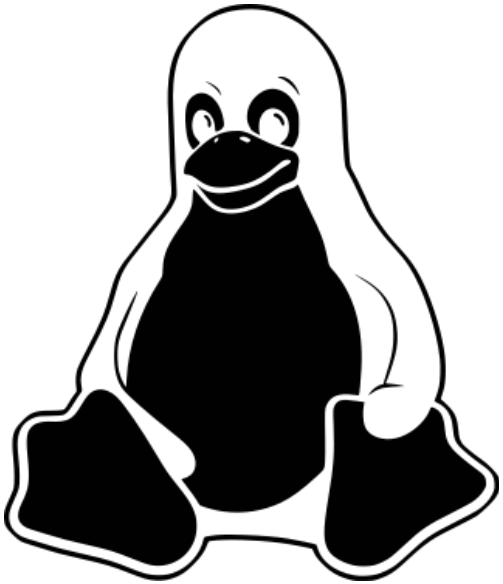
  https://genivi.webex.com/genivi/j.php?MTID=m2a4a435afb3fdb1846a62a8dfd544815

- **IRC**

  channel #automotive on freenode.net

Thank you!

Konsulko Group



- http://www.slideshare.net/leonanavi/contributing-to-agl-and-gdp